

CEN 70-093
20 May 1970

MEMORANDUM FOR THE RECORD

SUBJECT: Additional Information Requested by the IPC/DDS
25X1A () in Reference to SPD-M-70-0614
(Development of an Interactive Analysis Capability)

I. "What software now exists?"

A. Signal Processing Software

An extensive signal analysis software library now exists for the IBM 360. The following software is contained in this library.

1. Signal Enhancement

- (a) Maximum Likelihood Processor
- (b) Optimum Multipath Filter

2. Information Measurement

- (a) Ratio of Variances
- (b) Information Theoretic Program
- (c) Event Clustering

3. General Analysis

- (a) Time Domain
 - (1) Auto-Cross Correlation
 - (2) Envelope Detection
 - (3) Means and Variance Computation
 - (4) Periodicity Analysis

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(b) Frequency Domain

- (1) Spectrum Analysis
- (2) Digital Filtering
- (3) Cross-Correlation

4. Signal Classification

- (a) Optimum Seeking Classifier
- (b) Least Mean Square Classifier
- (c) Linear Classifier

- (1) Time Domain
- (2) Frequency Domain

B. Display Software

IBM supported graphics software for the 2250 and 2260 display terminals will be employed in the development of this system.

II. "What hardware exists, especially the displays?"

Initial development will utilize an IBM 2260 display terminal located in DDS&T/OCS/SAD. Continued development will employ an IBM 2250 display which is to be installed for DDS&T/OCS/SAD in September.

III. "What is the duration of project?" (Estimate)

It is estimated that the duration of this project will be six months to one year.

IV. "What then?"

As stated in SPD-M-70-0614 the system development consists of two phases. Upon completion of phase one, a determination will be made of the feasibility and usefulness of such an analytical tool. If this determination is favorable, phase two will commence. The end product will be a

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fully interactive analysis position. This capability will be used to justify a remote time-share terminal to be utilized by OC-SPD signal analysts. If phase one proves non-feasible, the development will be curtailed, with both components benefiting from the experience.

- V. "How much computer time on which computers, (65, 67, etc.)?"

The initial 2260 terminal is connected to the DDS&T computer center's 360/65. We are unable to estimate the amount of computer time required. The 2250 will be a time-share terminal of the 360/67 and approximately two hours of computer time will suffice.

- VI. "What cost for external computer if used?"

The use of an external computer is not contemplated.

- VII. "What will this provide that we do not have now?"

An interactive signal analysis position. Such a position offers the signal analyst complete and expedient access to all available analysis software, while maintaining complete control over the entire analysis process.



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ROUTING AND RECORD SHEET

SUBJECT: (Optional)

Additional Information Requested by the IPC/DDS
in Reference to SPD-M-70-0614 (Development of an Interactive Analysis
Capability

25X1A

FROM:

JRW

EXTENSION

NO.

CEN 70-093

Chief, Research Analysis

DATE

20 May 1970

25X1

TO: (Officer designation, room number, and building)

DATE

RECEIVED

FORWARDED

OFFICER'S
INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

1. Chief, Special
Support Center

5/22

MF

2.

3.

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15.

We are prepared to discuss the need for this position in greater detail if the Panel wishes.
MF

Considerable discussion has taken place between OCS and our people. The Panel might like to obtain some OCS views on the subject as well.
DS

1-3 - obtained this from me informally at a staff meeting - submitted for you to forward since I'm not sure whether you intend it to go directly to or to Panel.
DS

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